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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/673,956

09/29/2003

Timothy J. Dupuis

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07/22/2004

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EXAMINER

SHINGLETON, MICHAEL B

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/673,956

Applicant(s)

DUPUIS ET AL.

Examiner

Michael B. Shingleton

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <sup>Three</sup> ~~6~~ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 37-71 ~~is~~ are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-49, 52-58, 64, 65, 67, 69-71 ~~is~~ are rejected.
- 7) ☒ Claim(s) 50, 51, 59-63, 66, 68 ~~is~~ are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/26/04 and 3/1/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

Claims 65-69 are objected to because of the following informalities: Claims 66-69 all include the following problem associated with claim 65 because of their dependency on claim 65 either directly or indirectly. Claim 65 recites "the gain control signal" yet there is no gain control signal in base claim 64. Therefore it is assumed for examining purposes that claim 64 was to include proper antecedent basis for this terminology. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37, 53 and 64 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Jensen et al. 5,724,003 (Jensen).

Figure 4 of Jensen discloses a method of controlling the output power of an RF power amplifier 401 having the steps of generating a power detection signal via element 408 that relates to the output power of an RF power amplifier (See column 5, around line 17). This power detection signal of Jensen is clearly illustrated as being amplified using a variable gain amplifier 412. While Jensen does not show in the drawings a device that generates a gain control signal 414 that is for setting the gain of the variable gain amplifier, clearly Jensen inherently includes such as device otherwise the signal would not exist. Figure 4 of Jensen also clearly illustrates the using of the gain control signal 414 to generate a power control signal 406 for use by the RF power amplifier in setting the output power level of the RF power amplifier.

Figure 3 of Jensen discloses a method of controlling the output power of an RF power amplifier 302 having the steps of detecting the output power of an RF power amplifier via element 310 that relates to the output power of an RF power amplifier. Element 314 provides for a circuit that approximates a logarithmic amplifier (See column 3, line 34). This circuit 314 is used to generate a power control signal for use by the RF power amplifier in setting the output power level of the RF power amplifier. Applicant attributes the logarithmic nature with producing the claimed linear relationship and because of the

logarithmic nature of Jensen, the power control signal inherently has a generally linear relationship with the output power of the RF power amplifier on a log scale.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 43, 44, 70 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. 5,724,003 (Jensen) in view of Sahota 5,880,631 (Sahota).

Jensen is silent on the exact composition of the variable gain amplifier.

Figure 1A of Sahota clearly illustrates that an art recognized equivalent variable gain amplifier includes one that is composed of multiple stages wherein each stage of the variable gain amplifier is set by a gain control signal.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced the variable gain amplifier of Jensen with a multi-stage variable gain amplifier where each stage of the variable gain amplifier is set by a gain control signal because, as the Jensen reference is silent on the exact variable gain amplifier one of ordinary skill in the art would have been motivated to use any art-recognized equivalent variable gain amplifier such as the conventional multi-stage variable gain amplifier as taught by Sahota.

Claims 54, 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. 5,724,003 (Jensen) in view of Chadwick 5,159,280 (Chadwick).

Jensen is silent on the exact composition of the circuit that approximates a logarithmic amplifier.

Figure 2 of Chadwick clearly illustrates that an art recognized equivalent circuit that approximates an ideal logarithmic amplifier includes one that is composed of a variable gain amplifier 2.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced the circuit that approximates an ideal logarithmic amplifier of Jensen with a circuit that approximates an ideal logarithmic amplifier that includes as part of its structure a variable gain amplifier because, as the Jensen reference is silent on the exact variable gain amplifier one

of ordinary skill in the art would have been motivated to use any art-recognized equivalent circuit such as the one that approximates an logarithmic amplifier and includes as part of its structure a variable gain amplifier as taught by Sahota.

Note that the functions of having the power control signal related to the gain of the variable gain amplifier and the gain of the variable gain amplifier is controlled by a gain control signal, and wherein the power control signal is generated using the gain control signal are obvious consequences of the combination made obvious above.

Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. 5,724,003 (Jensen) in view of Chadwick 5,159,280 (Chadwick) as applied to claims 54 and 57 above, and further in view of Sahota 5,880,631 (Sahota).

Jensen and Chadwick are silent on the exact composition of the variable gain amplifier in the circuit that approximates a logarithmic amplifier.

Figure 1A of Sahota clearly illustrates that an art recognized equivalent variable gain amplifier includes one that is composed of multiple stages wherein each stage of the variable gain amplifier is set by a gain control signal.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced the variable gain amplifier of Jensen in view of Chadwick with a multi-stage variable gain amplifier where each stage of the variable gain amplifier is set by a gain control signal because, as the these references are silent on the exact variable gain amplifier for the circuit that approximates a logarithmic amplifier one of ordinary skill in the art would have been motivated to use any art-recognized equivalent variable gain amplifier such as the conventional multi-stage variable gain amplifier as taught by Sahota.

Claims 37-47, 52, 64, 65, 67 and 69-71 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-47 of U.S. Patent No. 6,727,754. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application recites is a later genius claim that omits limitations like "generating a second signal by conditioning the gain control signal" and the wireless device limitations. The method claims of the instant application do not patentably distinguish over the device claims of the '754 Patent because the device claims in the '754 patent sets forth steps like generating, etc. that are inherent in the claimed structure. The device claims of the instant application do not patentably distinguish over the method claims of the '754 patent because the method claims in the '754 patent set forth structures like

controlling an RF amplifier that inherently includes the RF amplifier structure etc. and thereby does not patentably distinguish over the device claims of the instant application. In addition Case law, however, firmly establishes that a later genus claim is not patentable over an earlier species claim. See In re Berg, 46 USPQ 2d 1226 (Fed. Cir. 1998).

Claims 48 and 49 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-47 of U.S. Patent No. 6,727,754 in view of Sahota 5,880,631 (Sahota). The same reasoning as applied in the above double patenting rejection of claims 37-47, 52, 64, 65, 67 and 69-71 and the following: Figure 1A of Sahota clearly illustrates that an art recognized equivalent variable gain amplifier includes one that is composed of multiple stages wherein each stage of the variable gain amplifier is set by a gain control signal.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced the variable gain amplifier of Jensen with a multi-stage variable gain amplifier where each stage of the variable gain amplifier is set by a gain control signal because, as the Jensen reference is silent on the exact variable gain amplifier one of ordinary skill in the art would have been motivated to use any art-recognized equivalent variable gain amplifier such as the conventional multi-stage variable gain amplifier as taught by Sahota.

Claims 38-42, 50, 51, 59-63 and 65-69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Note that some of the above claims are rejected under double patenting provisions and the objection of these claims above is dependent on applicant successfully overcoming the said double patenting rejection(s) above.

~~The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suzuki et al. JP406260917A discloses the general state of the art.~~

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571)272-1770. The examiner can normally be reached on Mon-Thurs from 8:30 to 4:30. The examiner can also be reached on alternate Fridays. The examiner normally has first Fridays of the bi-week off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2817

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS

May 25, 2004

  
MICHAEL B. SINGLETON  
PRIMARY EXAMINER  
GROUP 1 PART 1 INT 2817